

**DEVELOPMENT OF THE PROTOTYPE ATMOSPHERES
NODE OF THE PLANETARY DATA SYSTEM;** S.W. Lee, R.L. Davis, G.H. Ludwig,
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A prototype planetary atmospheres discipline node for NASA's Planetary Data System (PDS) is being developed at the University of Colorado's Laboratory for Atmospheric and Space Physics (LASP). The PDS is developing a large distributed information system for managing and providing access to NASA's planetary science data. The Atmospheres Node is implementing a prototype data center to acquire, store, maintain, and provide easy access to large volumes of planetary atmospheres data. In addition, the Node is assessing and developing new technologies for storage and retrieval of massive quantities of data. As part of this initial effort, LASP is overseeing the production of a set of ten optical disks (CD-ROMs) containing 6000 Voyager images of Uranus, Saturn, and Jupiter in digital form.

The Atmospheres Node is being designed to promote interdisciplinary research on planetary atmospheres by providing ready access to multiple datasets and necessary supporting software. The Node will assist scientists in locating and evaluating datasets through the use of both high-level (general) and low-level (detailed) catalogs, and is assembling a database of selected atmospheric datasets; resident expertise on the available datasets and software will also be available at the Node. The database will be accessed and managed through high-performance Britton-Lee relational database hardware.

The initial datasets expected to be installed by early 1987 are:

- Mariner 9 Ultraviolet Spectrometer (UVS)
 - raw and calibrated data
 - pressure-altitude maps
 - total ozone column-abundance maps
- Viking Mars Atmospheric Water Detector (MAWD)
 - raw and calibrated data
- Viking Lander meteorology data
 - summary pressure data (1 reading/sol)
 - point-by-point pressure data (multiple readings/hour)
 - binned pressure, temperature, and wind data (25 bins/sol)
- Viking and Mariner 9 cloud database (image-based)
- Viking Infrared Thermal Mapper (IRTM) cloud database
- USGS digital Mars topography

Other datasets expected to be installed by late 1987 are:

- additional Mariner and Viking datasets
 - Infrared Spectrometer (IRIS) data
 - Radio occultation data
- Pioneer Venus UVS
- Voyager (outer planets and satellites) UV and IR data

Initial use of the Node will be in the form of two "data workshops". The first (to be held in mid-1987) will concentrate on a research topic related to martian clouds and will involve a limited number of participants visiting the Node to access the Mars datasets described above. The second workshop (to be held in late-1987) will be concerned with a research topic related to outer planet atmospheres; participants will access the database both at the Node and remotely from their home institutions.

The Node is expected to be available to outside users on a trial basis by late-1987. Users will be able to access the Node's catalogs and database via dial-up telephone links, through the Space Physics Analysis Network (SPAN), or by visiting the Node.